REMARKS

In the Office Action dated November 19, 2002, the Examiner objected to the drawings under 37 C.F.R. § 1.83(a) for failing to show a feature described in the specification; objected to the disclosure because of particular informalities; rejected claim 3 under 35 U.S.C. § 112, second paragraph, as indefinite; rejected claims 1-7 and 10 under 35 U.S.C. § 103(a) as unpatentable over Kelly et al. (U.S. Patent No. 6,010,074) in view of Yap et al. (U.S. Patent No. 6,111,506); and rejected claims 8-9 and 11 under 35 U.S. C. § 103(a) as unpatentable over Kelly et al. in view of Yap et al., and further in view of Rostoker et al. (U.S. Patent No. 6,373,447).

In view of the foregoing amendments and the following remarks, Applicant respectfully traverses the Examiner's objections to the drawings and disclosure, and the rejections of the claims under 35 U.S.C. §§ 112 and 103(a).

The Examiner objected to the drawings under 37 C.F.R. § 1.83(a) for failing to show a feature described in the specification. Specifically, the Examiner objected to the drawings because they fail to show a line labeled A-A in FIG. 1A. Applicant is providing a proposed drawing change herewith to address this problem.

The Examiner objected to the disclosure because of particular informalities. Applicant has amended the disclosure to address the specific informalities noted by the Examiner.

The Examiner rejected claim 3 under 35 U.S.C. § 112, second paragraph, as indefinite. Applicant is canceling claim 3 herewith, rendering this rejection moot.

The Examiner rejected claims 1-7 and 10 under 35 U.S.C. § 103(a) as unpatentable over Kelly et al. (U.S. Patent No. 6,010,074) in view of Yap et al. (U.S.

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Patent No. 6,111,506). Applicant is canceling claims 1-7 and 10 herewith, rendering this rejection moot.

The Examiner rejected claims 8-9 and 11 under 35 U.S.C. § 103(a) as unpatentable over Kelly et al. in view of Yap et al., and further in view of Rostoker et al. (U.S. Patent No. 6,373,447). This rejection is respectfully traversed because a prima facie case of obviousness has not been made by the Examiner. To establish a prima facie case of obviousness, three basic criteria must be met. First, the prior art reference as modified must teach or suggest all the claim elements. Second, there must be some suggestion or motivation, either in the reference or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine the reference teachings. Third a reasonable expectation of success must exist. Moreover, each of these requirements must "be found in the prior art, and not be based on applicant's disclosure." (M.P.E.P. 2143.03 (8th ed. 2001)).

The Examiner alleged that Kelly et al. disclose a wireless information storage device comprising a coil antenna for transmitting and/or receiving a signal via wireless communication, a memory for storing information, and a control unit that generates information by demodulating a signal received via the coil antenna and generates a signal to be transmitted via the coil antenna by modulating information stored in the memory. The Examiner admitted that Kelly et al. do not disclose having a two-dimensional center and a molded case having a two-dimensional center including the coil antenna, wherein each coil antenna is located at a position in the device relatively different from each other when a plurality of devices is stacked. The Examiner relied on Yap et al. and Rostoker et al. to teach those features.

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Claim 8 provides for a wireless information storage device, comprising: a coil antenna having a two-dimensional center for transmitting and/or receiving a signal via wireless communication; a memory for storing information; a control unit that generates information by demodulating a signal received via the coil antenna, and generates a signal to be transmitted via the coil antenna by modulating information stored in the memory; and a molded case having a two-dimensional center including the coil antenna, wherein each coil antenna is located at a position in the device relatively different from each other when a plurality of devices is stacked.

Applicant respectfully submits that Kelly et al. in view of Yap et al., and further in view of Rostoker et al. do not disclose or suggest at least this claimed combination of elements. For example, the references do not disclose or suggest at least a molded case having a two-dimensional center including the coil antenna, wherein each coil antenna is located at a position in the device relatively different from each other when a plurality of devices is stacked.

Kelly et al. disclose a non-contact automated data collection system having a target that receives message transmissions from an electronic fare tag and conveys the message transmissions to a microcontroller (col. 2, lines 42-46). The target includes a coil antenna (FIG. 1), a memory (FIG. 2), a microcontroller (FIG. 1), and a modulator/demodulator (FIG. 1). Incoming messages may be received by the coil antenna (col. 3, lines 62-64), then conveyed to the modulator/demodulator for demodulation (col. 3, lines 64-66). Outgoing messages may be conveyed by the microcontroller through the modulator/demodulator to the coil antenna for transmission (col. 4, lines 13-20).

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In contrast, systems and methods consistent with the present invention are drawn to wireless information storage devices that include coil antennas. When a plurality of the devices are stacked, each coil antenna is located at a position in the device relatively different from each other. In this manner, the center axes of the respective coil antennas do not align with each other. Kelly et al. do not show that multiple targets can be stacked, let alone that the coil antennas within the targets are located at a position in the targets relatively different from each other. The Examiner has also admitted that Kelly et al. do not show such features. Accordingly, Kelly et al. do not disclose, teach, or suggest at least a molded case having a two-dimensional center including the coil antenna, wherein each coil antenna is located at a position in the device relatively different from each other when a plurality of devices is stacked.

Yap et al. are not sufficient to overcome the deficiencies of Kelly et al. Yap et al. disclose a system in which a substrate may include a coil antenna (FIG. 1; col. 12, lines 59-63). Yap et al., however, are silent as to whether multiple substrates can be stacked. Even if Yap et al. are considered to show stacked substrates, there is nothing to suggest that the coil antennas within the stacked substrates would be located at a position in the substrates relatively different from each other. Moreover, the Examiner admitted that Yap et al. do not show such features. Accordingly, Yap et al., either alone or in combination with Kelly et al., do not disclose, teach, or suggest at least a molded case having a two-dimensional center including the coil antenna, wherein each coil antenna is located at a position in the device relatively different from each other when a plurality of devices is stacked.

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Rostoker et al. are not sufficient to overcome the deficiencies of Kelly et al. and Yap et al. Rostoker et al. disclose a system in which an IC chip may include multiple antennas (col. 8, line 66 - col. 9, line 12). For example, a first antenna may be disposed within one portion of the IC chip, and a second antenna may be disposed within another portion of the IC chip (col. 9, lines 12-18). This embodiment of Rostoker et al., however, does not disclose that the antennas are located at a position in the IC chip relatively different from each other when a plurality of IC chips is stacked. This embodiment shows antennas within one device. The various chip portions disclosed by Rostoker et al. are not on different levels.

Another embodiment disclosed by Rostoker et al. shows that multiple antennas may be disposed in two different vertical planes on a single IC chip (col. 10, lines 9-15; FIGS. 7A and 7B). These antennas, however, are concentric with each other (FIGS. 7A and 7B; col. 10, lines 36-46). As such, this embodiment of Rostoker et al. does not disclose that the antennas are located at a position in a device relatively different from each other when a plurality devices is stacked. Accordingly, Rostoker et al., either alone or in combination with Kelly et al. and Yap et al., do not disclose, teach, or suggest at least a molded case having a two-dimensional center including the coil antenna, wherein each coil antenna is located at a position in the device relatively different from each other when a plurality of devices is stacked.

For at least the foregoing reasons, Applicant submits that claim 8 is patentable over Kelly et al. in view of Yap et al., and further in view of Rostoker et al. Because claim 11 is an independent claim with recitations similar to those of claim 8, Applicant

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further submits that claim 11 is patentable over Kelly et al. in view of Yap et al., and further in view of Rostoker et al. for at least the reasons given with respect to claim 8.

Dependent claim 9 is allowable not only for the reasons stated above with regard to its respective allowable base claim, but also for its own patentable features that distinguish them from Kelly et al., Yap et al., and Rostoker et al.

Additionally, Applicant respectfully submits that new claim 12 is allowable for its own additional features that distinguish it from Kelly et al., Yap et al., and Rostoker et al.

Since each of the claims is allowable, Applicant respectfully requests the timely allowance of this application.

If an extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Amendment, such extension is requested. If there are any other fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P.

Dated: February 19, 2003

By: _____
Walter D. Davis, Jr.
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APPENDIX TO AMENDMENT OF FEBRUARY 19, 2003

AMENDMENTS TO THE SPECIFICATION:

Page 3, the paragraph beginning on line 17:

Also in accordance with an aspect of the present invention, there is provided a wireless information storage device. The device comprises a coil antenna, a memory, a control, and a molded case. The coil antenna has a two-dimensional center for transmitting and/or receiving a signal via wireless communication [transmitting and/or receiving a signal via wireless communication]. The memory stores information. The control unit generates information by demodulating a signal received via the coil antenna, and generates a signal to be transmitted via the coil antenna by modulating information stored in the memory. The mold case having a two-dimensional center includes the coil antenna. Each coil antenna is located at a position in the device relatively different from each other when a plurality of devices is perfectly stacked.

Page 7, the paragraph beginning on line 25:

Antenna 102 and wireless transmitter/receiver 104 are connected to each other via conductors 108a and 108b. The wireless transmitter/receiver 104 is arranged in a space defined in the antenna 102. Molded case 106 may be a round-and-board-shaped disk. Molded case 106 may be 20 mm in diameter and 3-5 mm thick.

Pages 9, the paragraph beginning on line 25:

Reader/writer system 400 reads information from the above-described wireless information storage device [102] 100 and also writes information into the above-

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described wireless information storage device [102] 100 as needed, using [a] wireless [communications]communication. Reader/writer system 400 comprises an antenna box 402, a computer 404, and a cable 406 to connected antenna box 402 and computer 404.

Page 10, the paragraph beginning on line 6:

Reader/writer system 400 communicates with perfectly "M" stacked wireless information storage devices [102] 100 in a line and "N" bunches of the devices [102] 100 in a line.

Page 10, the paragraph beginning on line 9:

When wireless information storage device [102] 100 enters into an area where read/writer system 400 can communicate, computer 404 instructs antenna box 402 to output a radio wave signal.

Page 10, the paragraph beginning on line 12:

In each wireless information storage device [102] 100, antenna 102 receives the radio wave signal, transforms the radio wave signal into an electric signal, and provides the electric signal to both power generator 200 and clock generator 202. Power generator 200 generates electric power necessary to drive each internal part using the electric signal and supplies the electric power to each internal part. Clock generator 202 generates a clock pulse from the electric signal and supplies the clock to each internal part.

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Page 11, the paragraph beginning on line 23:

FIG. 5(a) is an exemplary horizontal cross section of a wireless information storage device 500[100] according to a second embodiment of the present invention. FIG. 5(b) is an exemplary vertical cross section of wireless information storage device 500[100] sectioned at a line B-B shown in FIG. 5(a).

Page 12, the paragraph beginning on line 3:

Wireless information storage device 500 comprises a loop-shaped antenna 502, a wireless transmitter/receiver 504, and a rectangle-shaped molded case 506. Antenna 502 and wireless transmitter/receiver 504 are connected to each other via conductors 508a and 508b. The wireless transmitter/receiver 104 is arranged in a space defined in the antenna 502.

Page 13, the paragraph beginning on line 22:

FIG. 8(a) is an exemplary diagram depicting locations of a plurality of wireless information storage [device]devices 700 of stacked items 800, viewed from the direction perpendicular to the plane surface of item 800. FIG. [6]8(b) is an exemplary diagram depicting locations of a plurality of wireless information storage [device]devices 700 of piled up items 800, viewed from the direction parallel to the plane surface of item 800.

Page 14, the paragraph beginning on line 3:

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As shown in FIG. 8(a), wireless information storage device 700, e.g., 700a, 700b, 700c, ... , and 700z, is located off from a two-dimensional center of gravity C5. When a plurality of [item]items 800, e.g., 800a, 800b, 800c, ... , and 800z, is perfectly stacked as shown in FIG. 8(b), there is little possibility of these wireless information storage [device]devices 700 being located at the same position because each wireless information storage device 700 is not located at the center of item 800 as shown in FIG. 8(a). In other words, there is little possibility of the center axis of one of the antennas 702 being located at the same position as the center axis of [other]another antenna 702[is located].

AMENDMENTS TO THE CLAIMS:

11. (Amended) A method for putting a wireless information storage device on or into an item having a two-dimensional center, the device [which comprises]comprising a coil antenna and a molded case having a two-dimensional center including the coil antenna, comprising the step of:

putting the device at a position in the item relatively different from each other when a plurality of [item]items is stacked.

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